Chapter 8
Waste Transfer and Material Recovery System

Introduction

Transfer stations serve as centralized collection points for solid wastes. They also provide for the collection of additional solid wastes, such as source-separated recyclable materials (not collected by curbside programs), yard debris, household hazardous waste (HHW), certain sludge, bulky waste, asbestos and other special wastes. In addition, transfer stations are ideal locations for distributing educational materials and displaying demonstration projects aimed at increasing the effectiveness of waste reduction and recycling efforts.

WAC 173-304, Minimum Functional Standards (MFS) for Solid Waste Handling, is the primary state regulation governing the design and operations of transfer stations in the State of Washington. Currently, the MFS are in a revision process. Clark County Code Chapter 24.12, Solid Waste Management, is the primary local statute governing transfer stations.

Transfer stations increase the handling efficiency of solid waste management systems where disposal sites are long distances from waste sources. Combining significant amounts of waste at a transfer station can minimize haul times and costs for certificated / contracted haulers, self-haulers and municipal collectors. In rural locations, shorter hauling distances may reduce the amount of illegal disposal or burning.

Other programs for the management of the solid waste stream are certain to evolve during the life of the Plan. It is important to provide adequate space and support facilities at transfer stations to implement these programs.

Note: Additional information which establishes generic management and handling approaches for the storage, treatment, and processing of MSW and special wastes in Clark County is contained in the *Appendix* under *Storage, Treatment, and Processing*. The definitions and regulations contained within that document apply to:

- MSW storage facilities and equipment in Clark County, including residential and non-residential waste containers, waste collection vehicles, the two CRC transfer stations and the Tidewater barge loading facility, as well as temporary containers and certain facilities.
- MSW treatment and processing consisting primarily of material recovery activities at the CRC transfer stations, in addition to special wastes, which are treated and processed in Clark County.

Existing Conditions

Background

Leichner Landfill, which had previously received most of the municipal solid waste (MSW) in Clark County, was closed in December 1991. Anticipating the closure, the County and cities had planned and implemented a waste transfer and disposal system to provide long term handling of municipal solid waste (MSW). In 1988, after a long and unsuccessful landfill site selection process, the County and cities used a competitive selection process to find a provider for MSW recycling, transfer, transport and out-of-county disposal services. In April 1990, the County and the City of Vancouver entered into a 20-year contract with Columbia Resource Company (CRC) with services to begin in January 1992.

The basic contracted services provided by CRC are:

- Siting, construction and operation of two or more transfer stations in Clark County;
- Diversion of a minimum of 10 % of the incoming waste stream;
- Operation of Household Hazardous Waste (HHW) drop-off facilities;
- Public drop-off facilities for source-separated recyclable materials;
- Transport and disposal of non-recycled and non-hazardous waste to the Finley Buttes Landfill in Morrow County, Oregon;
- Processing and marketing of recyclable materials from County/city curbside collection programs.

CRC's contract provides that a minimum of 10% of the incoming MSW stream must be diverted for recycling. County staff determined this percentage in 1996 after reviewing waste characterization studies, which were conducted for the County in 1993 and 1995-1996. All MSW, including residential recyclables, generated in the County is directed to CRC transfer stations. The only exceptions from this requirement are: self-hauled wastes and recyclables; wastes collected by Ted's Sanitary Service in northwest Clark County; and commercially-generated source separated recyclable materials. (Note: see Chapter 7 *Waste Collection* for definitions of source separated and recyclables, and a discussion of different types of loads. Also see Chapter 16 *Enforcement* for additional information on legal haulers.)

Central Transfer and Recycling Center (CTR)

CTR is located at 11034 N.E. 117th Avenue (State Route 503). Operations began at this site in 1985 as the R&R Transfer Station. Most waste received at this facility was top-loaded into transfer trailers and exported to several out-of-county disposal sites; certain inert wastes were buried on-site. Because the facility had no scales, disposal fees were volume (cubic yard) based.

CRC purchased this facility in 1990 to use as one of the two transfer stations it was required to provide by contract with the County. Under CRC ownership the site has been substantially upgraded and improved to handle increased traffic and waste flows

and to accept HHW. During the second half of 1991, CRC reconstructed and expanded the old R&R site to include a new 40,000-square-foot transfer building with a hydraulic compactor unit. The old transfer building was expanded to 13,000 square feet and converted for use as a drop-off area for HHW and source-separated recyclable materials. New entry and scalehouse facilities were also added. The new transfer station building began operating in January 1992.

Before its closure in December 1991, most of the waste generated in the County went to the Leichner Landfill. CTR received waste from residential and non-residential self-haulers and the Cities of Camas and Washougal. In January 1992, CTR began receiving the entire waste flow from all jurisdictions within Clark County on an interim basis, pending the completion of a second transfer station. With the completion of the West Van Material Recovery Center in late 1992, CTR began serving primarily the Northern Vancouver urban area, outlying rural areas and the Cities of Camas and Washougal.

In addition to MSW, CTR accepts commercial waste including construction and demolition wastes, source-separated recyclable materials, HHW and other special wastes. Special wastes such as asbestos, petroleum-contaminated soils, ash, certain sludges and bulky wastes can be delivered to CTR with advance notice and completion of a special waste application issued by CRC. Hazardous waste from Small Quantity Generators (SQGs) is also being collected at CTR.

CTR recovers both source-separated and non-source-separated recyclable materials. Source-separated materials are delivered to a public drop site separate from the main CTR tipping floor. Non-source-separated recyclable materials are recovered by CRC staff from selected loads on the tipping floor. Most tipping floor recovery occurs from drop-box and self-haul loads, not from compacted loads of mixed residential and commercial wastes. These recovered materials include corrugated cardboard, wood, metals and other materials deemed economically recoverable. Recycled materials accumulated at CTR are either delivered directly to secondary markets or transferred to CRC's West Van facility for further processing.

MSW delivered to CTR is either top-loaded into transfer trailers or end-loaded by hydraulic compactor units into shipping containers. Solid wastes that are top-loaded are less compacted and could be transported to the West Van facility for processing to divert additional recyclable materials. Solid wastes that are compacted into shipping containers are transported directly to the barge-loading facility at Tidewater Barge Lines. They are then shipped upriver for final transport to the Port of Morrow and ultimately the Finley Buttes Landfill. Tidewater Barge Lines is the contracted transport company.

HHW is accepted from residential self-haulers in the receiving area of the recycling/HHW building. HHW is received, sorted and packaged prior to its removal from CTR by a licensed contractor and transported directly to an authorized treatment, storage and disposal facility. (Other hazardous materials accidentally or illegally disposed of with regular waste, are also removed from MSW by CRC personnel when seen on the tipping floor. Load check spotters, equipment operators and other station personnel have been trained to identify and isolate unauthorized wastes.)

West Van Materials Recovery Center (West Van)

The West Van facility is located at 6601 NW Old Lower River Road, on the west side of Vancouver. Most of the waste delivered to this facility is generated in West and North Vancouver. This facility functions as a transfer station and materials recovery center and receives:

- Regular garbage (MSW) from private waste collection companies and self-haulers;
- Source-separated recyclable materials delivered by the public, including scrap metal, appliances, sheetrock and other materials;
- Household hazardous waste (HHW);
- "Dry" loads of commercial materials that have a high potential for recyclable materials recovery;
- Construction and demolition wastes (C&D)
- Yard debris, land clearing debris and other wastes, requiring special handling or processing;
- Source-separated recyclable materials collected through county/city curbside collection programs.

The West Van Facility includes an 82,000-square-foot main building, entry and exit scales, control facilities, a truck wash facility, a container and drop-box storage area, administration and employee buildings, a six-acre C & D processing and composting area and a stormwater detention and treatment area. The facility also includes several operational components: a tipping floor/material recovery area; a recycling processing area; a HHW receiving and storage area; and a wood waste/yard debris storage and composting area. The tipping floor/material recovery area has separate bays for self-haulers and waste collection vehicles to unload MSW. Self-haulers unload on the east side of the facility, while certificated/contracted haulers unload on the northeast end of the facility. Loads with a high recycling potential are manually sorted to recover recyclable materials. Residual wastes are pushed into a compactor for loading into shipping containers. The containers are then transferred to the Tidewater Barge Lines for shipment upriver for final transport to the Finley Buttes Landfill.

CRC recently paved several acres to the north of the main building for use as a wood waste and construction debris processing and composting area. Wood waste is stockpiled on this pad and periodically chipped. The paved area is used for an open windrow composting operation. At the site, material actively composts and the finished compost is screened and readied for transport. Some composting occurred in 1997, with expanded operations in 1998. CRC shipped out 350 tons of finished compost material in 1998.

English Pit Transfer Station (Closed)

The former English Pit Transfer Station was located at 912 N.E. 192nd Avenue in Eastern Clark County. The facility is owned by Clark County and was operated as a transfer station from 1978 to March 1989. The facility consisted of a 6,000-square-foot transfer building, a pay booth and administration building. The Roads and Maintenance Division

of the Clark County Department of Public Works is currently using the facility for equipment and material storage.

Waste Quantities

Both CTR and West Van have been designed to receive and transfer up to 438,000 tons per year of solid waste. In 1997, a combined total 223,920 tons of waste was received at CTR and West Van. CTR received 143,500 tons of waste, 64% of the combined total. West Van received 80,420 tons of waste, 36% of the combined total.

Future influences on MSW quantities in the transfer system include:

- The rate of increase and the distribution of population and commercial growth in the County;
- The ability of the County and cities to direct the flow of waste generated within their jurisdictions;
- Unauthorized export of MSW out of the County disposal system;
- Mandatory collection in cities and in all or portions of the County;
- The effectiveness of waste reduction and recycling programs;
- The strength of recovered material markets and prices;
- Changes in contractual and legal definitions of some components of the waste stream;
- Changes in waste composition resulting from changes in markets or recovered material prices; and
- Import of waste to the Clark County system.

Needs and Opportunities

Transfer facilities can increase the handling efficiency of solid waste management systems, especially where disposal sites are long distances from waste sources. In urban and semi-urban areas, significant amounts of waste can be combined at a transfer station to minimize haul times and costs for certificated / contracted haulers, self-haulers and municipal collectors. In rural locations, transfer stations provide increased convenience for residential and non-residential self-haulers, who might otherwise have to travel long distances to reach disposal sites. Increased convenience helps reduce the amount of illegal dumping, illegal burning and other inappropriate forms of disposal.

The current transfer system provides full backup capability for waste transfer at either the CTR or West Van facility. Under interim emergency conditions, either facility is designed to handle the entire projected year 2011 flow of MSW within Clark County. This full backup capability is expected to last throughout the 20-year planning period covered in the Plan. However, if the West Van facility became inoperable and all wastes had to be transferred through CTR, recovery levels for non-source-separated recyclable materials would decline. While either West Van or CTR could provide adequate capacity, should the other facility be temporarily out of service, the waiting

times and vehicle queues at the operating station would increase. Vehicles backing up on to public thoroughfares are more likely to be a problem at CTR than West Van. The in-county backup system should be periodically evaluated for adequacy.

The current system has been designed with flexibility to respond to changes in population and economic growth and in the behavior of residential and non-residential waste generators. It is essential for the waste transfer system to maintain an acceptable "level of service" during the 20-year planning period covered by the Plan. Current service levels should be maintained or improved as the population grows and transfer facilities begin to reach their physical and functional limits. The public's willingness to participate in drop-off, source-separated recyclable and special waste collection programs will be directly affected by the convenience of transfer facilities and services.

Alternatives

The Solid Waste Advisory Commission reviewed the following Alternatives:

1. *Maintain CTR and West Van as the only operating transfer facilities.*

2. *As needed, expand the system to include an east county transfer facility (east of the southern I-205 corridor) and others, in addition to the two existing transfer facilities.*

3. *Explore the option of local government ownership of transfer system facilities.*

Evaluation of Alternatives

1. *Maintain CTR and West Van as the only operating transfer facilities.*

With this alternative, only the CTR and West Van transfer facilities would continue operating. No new facilities would be developed over the 20-year planning period covered by the Plan. Increased waste volumes and enhancements to the solid waste management system would be handled at the existing transfer facilities or through other parts of the system, as needed.

By continuing to use the current two transfer station system, additional capital and operating costs associated with the development of new transfer facilities would be avoided. A primary disadvantage of this alternative would be the lack of a convenient transfer facility for self-haul users in the north and east areas of the County. These are areas where significant residential and non-residential development could occur over the 20-year planning period covered by the Plan, with near-term growth centered in the eastern area and expected to follow in the north. A lack of convenient access for users or lowered levels of service— if it occurs — could lead to more waste being illegally transported into Oregon or surrounding Washington counties, illegal dumping and lower participation in other solid waste programs at the transfer facilities.
The level of service provided to users of waste transfer facilities is evaluated for location and convenience using the following general criteria: waiting time, drive convenience, "user friendliness" of the facility, and the range of services offered.

Also, by 1998 vehicles at CTR had already begun to experience increased waits during peak self-haul times, such as on Saturdays. These waits resulted from an increase in numbers of self-haul vehicles visiting the facility, rather than tonnage-processing limitations. Site limitations at CTR precluded a significant expansion to handle peak

traffic capacity. One factor that may have encouraged self-haul was the minimum disposal fee of $5.00 per vehicle that included tonnage. This fee was well below the actual cost of providing service and the subsidy allowed for the attractive low price. While an ordinance requiring all residents within the County and cities to subscribe to garbage service could result in reduced self-haul usage and increased transfer station efficiency, there is not yet popular support for this option.

Beginning in January 1999, the existing subsidy to small-quantity self-haulers was significantly reduced by an amendment to the CRC contract, which restructured the tip fee into two components:

- a (reduced) charge per ton of waste disposed,
- a fee of $10.00 per disposal transaction to cover fixed costs unrelated to weight disposed.

This change has reduced peak traffic loads and promote more efficient use of the transfer stations by decreasing the number of visits by small-quantity self-haulers. County staff will monitor the effect of this change on transfer station usage, collection service subscription rates, out-of-county waste transport and illegal disposal in the County.

2. *As needed, expand the system to include an east county transfer facility (east of the southern I-205 corridor) and others, in addition to the two existing transfer facilities.*

Interim capacity might be obtained through traffic flow improvements at the CTR, although a long-term solution could be to build an additional transfer station in Clark County. This additional waste transfer station may be required to preserve or increase the current level of service provided by the transfer system. Continued residential and commercial development in rural areas and the eastern part of the county can cause increases in traffic, with longer drive times and more time spent waiting in line at existing transfer stations. This is likely to reduce customer satisfaction and create the perception that the system is less convenient. Public, private and municipal haulers will find transferring wastes to be inconvenient. Although additional transfer stations could provide more user convenience, their benefit to the handling system in Clark County must be compared with the increased costs associated with adding facilities.

Population centers in the eastern part of the County are located at least 18 miles from the two existing transfer stations. As the population grows in the southern part of the County and traffic congestion increases on State Route 14, drive times from the eastern part of the County to these two transfer facilities will increase. By adding a transfer station to the eastern part of the County, drive times to a transfer facility would be significantly reduced and convenience improved.

The CRC/County contract provides for CRC to site, construct and operate a third facility for the County. Such a facility would be a staffed station with a tipping floor and waste compactor to allow loading of both top-load transfer trailers and shipping containers. Wastes could be transported to either the West Van facility or to Tidewater Barge Lines. This arrangement would be similar to that of CTR, with some separation of recyclable materials from MSW at the facility. Currently CRC, the County and the City of Washougal are conducting meetings to discuss the siting of a third transfer station in Washougal.

If the County solid waste system continued to operate using the current two transfer stations only, it would save the additional capital and operating costs associated with the development of a new transfer station. However, a disadvantage of this potential policy would be the lack of a convenient transfer station for users in both the northern and eastern areas of the County. Significant residential and non-residential development is anticipated to occur in these areas during the 20-year planning period. It is also expected that early growth in these areas will be centered in the eastern part of the County and then later expanded into the northern area. Such growth could result in a lack of convenient access for users in those areas, which could lead to an increase in illegal dumping of waste and also to more waste being transported outside of the County solid waste system. The transportation of waste outside of the County solid waste system can affect solid waste programs at the transfer facilities by lowering participation rates.

3. *Explore the option of local government ownership of transfer system facilities.*

The current waste transfer system is privately owned and operated by CRC under a contract with the County/Cities. The tip fees are set in the solid waste contract between CRC, the County and the City of Vancouver, and are adjusted, per the contract, primarily on the basis of a percentage of the change in the Consumer Price Index (CPI) for the Portland-Vancouver metropolitan area.

Periodically, the advantages and disadvantages of private sector and local government owner/operator options need to be reconsidered. This review should be performed together with the 5-year update of the Plan. In addition, the "public vs. private" issue will need to be closely examined before expiration of the initial 20-year term of the solid waste contract with CRC.

The waste transfer and export contract with CRC allows the County and City of Vancouver to cancel their obligation to use the transfer station facilities on January 1, in the years 2002 or 2007, provided the County gives CRC a 6-month written notice. The County and/or City could then purchase the facilities from CRC according to specific terms contained in the contract. Non-performance of contractual requirements also could trigger a County or City buyout at any time.

Local government ownership of the facilities may provide the County and cities with an opportunity to lower transfer system costs in the future, if local government were to own one or more components of the transfer system. The existing system, with CRC providing services, appears to be cost-effective; there is no indication that local government ownership could reduce costs in the near future. Before CRC was awarded its contract, local government ownership and operation of the transfer system was considered. It was decided at that time that a private service provider could own and operate the system at a lower cost than a public service provider.

Recommendations

The Solid Waste Advisory Commission reviewed the complete list of Alternatives and has recommended the following Alternatives:

2. *As needed, expand the system to include an east county transfer facility (east of the southern I-205 corridor) and others, in addition to the two existing transfer facilities.*

   The existing waste transfer system, consisting of the two transfer stations can be upgraded, as needed and as possible, to maintain or improve existing levels of service. If a third transfer station is to be developed, the contract provides for CRC to site, construct and operate this station for the County. The County and CRC will evaluate the immediate and long-term need for additional solid waste transfer station(s) in the County, based on factors that would include:

   - Growth patterns;
   - Projected population and employment growth;
   - Effect on overall solid waste system costs;
   - Availability of suitable sites;
   - Remaining capacity of existing stations;
   - Negative impacts of capacity usage of existing stations;
   - Levels of illegal dumping, illegal burning and inappropriate disposal;
   - Level of commitment on the part of Camas and Washougal toward the County/CRC disposal system; and
   - Convenience and accessibility for County's citizens.

3. *The County and cities should explore the option to purchase the CRC waste transfer system facilities prior to the contract option dates of 2002 and 2007 or in conjunction with the Plan updates.*